

Notice of Allowability

Application No.

10/826,888

Examiner

SRINIVASA R. REDDIVALAM

Applicant(s)

DONTU ET AL.

Art Unit

2477

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 02/12/2010 and Examiner's amendment.
2. ☒ The allowed claim(s) is/are 13-34, 36-42, 50-56, and 64-70 (renumbered as 1-43 respectively).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 03/04/2010.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477

Continuation of Attachment(s) 9. Other: Correction to the 4/16/08-1449-npl AL missing year.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brenna A. Brock (Registration# 48,509) and Senaida San Miguel on 03/04/2010.

The application claims have been amended as follows:

Claims 1, 3-12, 43, 45-49, 57, and 59-63 are cancelled.

Claim 13. (Currently Amended) A method, comprising:

receiving a packet via a virtual network device link, the packet comprising

unicast destination address, wherein

the virtual network device link couples a first virtual network

device sub-unit and a second virtual network device

sub-unit, and wherein

the first virtual network device sub-unit and the second

virtual network device sub-unit are configured to operate as a single virtual network device within a network, and

the virtual network device is configured to perform Layer 2 forwarding to forward the packet to one or more network devices within the network; and

performing an egress lookup for the packet in response to the receiving the packet, wherein

the performing the egress lookup in a lookup table on a first line card comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card.

Claim 34. (Currently Amended) A system comprising:

an interface to a virtual network device link, wherein

the interface is configured to receive a packet,

the virtual network device link couples a first virtual network device sub-unit and a second virtual network device sub-unit, and

the first virtual network device sub-unit and the second virtual network device sub-unit are configured to operate as

a single virtual network device within a network, and

the virtual network device is configured to perform Layer 2 forwarding to forward the packet to one or more network devices within the network; and

a distributed forwarding module coupled to the interface, wherein

the distributed forwarding module is configured to perform one of an ingress lookup and an egress lookup in a lookup table on a first line card for the packet, wherein the distributed forwarding module is configured to perform an ingress lookup for the packet if the packet includes a multicast destination address, and the distributed forwarding module is configured to perform an egress lookup for the packet if the packet includes a unicast destination address, wherein ~~performance~~ing of the egress lookup comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card; and a primary entry can be allocated in the lookup table in response to an ingress lookup but not in response to an egress lookup, wherein the primary entry indicates an interface on the first line card.

Claim 50. (Currently Amended) A system comprising:

means for receiving a packet via a virtual network device link, the packet comprising a unicast destination address, wherein

the virtual network device link couples a first virtual network device sub-unit and a second virtual network device sub-unit, and wherein the first virtual network device sub-unit and the second virtual network device sub-unit are configured to operate as a single virtual network device within a network, and the virtual network device is configured to perform Layer 2 forwarding to forward the packet to one or more network devices within the network; and means for performing an egress lookup for the packet in a lookup table on a first line card in response to receipt of the packet, wherein the means for performing the egress lookup comprises means for allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card.

Claim 64. (Currently Amended) A non-transitory computer readable medium storing a program, the program comprising program instructions executable to: detect reception of a packet via a virtual network device link, the packet comprising a unicast destination address, wherein the virtual network device link couples a first virtual network

device sub-unit and a second virtual network device sub-unit, and wherein the first virtual network device sub-unit and the second virtual network device sub-unit are configured to operate as a single virtual network device within a network, and the virtual network device is configured to perform Layer 2 forwarding to forward the packet to one or more network devices with in the network; and perform an egress lookup for the packet in response to receipt of the packet, wherein performing the egress lookup in a lookup table on a first line card comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card.

End of Amendment.

Reasons For Allowance

2. Claims 13-34, 36-42, 50-56, and 64-70 are allowed.
3. The following is an examiner's statement of reasons for allowance:
Regarding claim 13 and subsequent dependant claims, prior art of record fails to teach or render obvious, alone or in combination, the method of claim 13 comprising

performing an egress lookup for the packet in response to the receiving the packet, wherein the performing the egress lookup in a lookup table on a first line card comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card in combination with the all other disclosed limitations as recited in independent claim 13.

Regarding claim 24 and subsequent dependant claims, prior art of record fails to teach or render obvious, alone or in combination, the method of claim 24 wherein performing the egress lookup comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non- primary entry indicates a second line card and a primary lookup table entry can be allocated in the lookup table in response to an ingress lookup but not in response to an egress lookup, wherein the primary entry indicates an interface on the first line card in combination with the all other disclosed limitations as recited in independent claim 24.

Regarding claim 34 and subsequent dependant claims, prior art of record fails to teach or render obvious, alone or in combination, the system of claim 34 wherein performing of the egress lookup comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card and a primary entry can be allocated in the lookup table in response to an ingress lookup but not in response to an

egress lookup, wherein the primary entry indicates an interface on the first line card in combination with the all other disclosed limitations as recited in independent claim 34.

Regarding claim 50 and subsequent dependant claims, prior art of record fails to teach or render obvious, alone or in combination, the system of claim 50 comprising means for performing an egress lookup for the packet in a lookup table on a first line card in response to receipt of the packet, wherein the means for performing the egress lookup comprises means for allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card in combination with all other disclosed limitations as recited in independent claim 50.

Regarding claim 64 and subsequent dependant claims, prior art of record fails to teach or render obvious, alone or in combination, the computer readable medium of claim 64 wherein performing the egress lookup in a lookup table on a first line card comprises allocating a non-primary entry corresponding to a source address of the packet in the lookup table, if an entry corresponding to the source address has not already been allocated, wherein the non-primary entry indicates a second line card in combination with all other disclosed limitations as recited in independent claim 64.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any response to this office action should be faxed to (571) 273-8300 or mailed

To:

Commissioner for Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SRINIVASA R. REDDIVALAM whose telephone number is (571)270-3524. The examiner can normally be reached on Mon-Fri 9:30 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Srini Reddivalam
07/01/2010

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477